

What is claimed is:

1. A substantially purified polypeptide comprising an amino acid sequence selected from the group consisting of SEQ ID NO:1-6, and fragments thereof.
5
2. A substantially purified variant having at least 90% amino acid sequence identity to the amino acid sequence of claim 1.
3. An isolated and purified polynucleotide encoding the polypeptide of claim 1.
10
4. An isolated and purified polynucleotide variant having at least 70% polynucleotide sequence identity to the polynucleotide of claim 3.
5. An isolated and purified polynucleotide which hybridizes under stringent conditions to
15 the polynucleotide of claim 3.
6. An isolated and purified polynucleotide having a sequence which is complementary to the polynucleotide of claim 3.
- 20 7. A method for detecting a polynucleotide, the method comprising the steps of:
 - (a) hybridizing the polynucleotide of claim 6 to at least one nucleic acid in a sample, thereby forming a hybridization complex; and
 - (b) detecting the hybridization complex, wherein the presence of the hybridization complex correlates with the presence of the polynucleotide in the sample.
- 25 8. The method of claim 7 further comprising amplifying the polynucleotide prior to hybridization.
9. An isolated and purified polynucleotide comprising a polynucleotide sequence selected
30 from the group consisting of SEQ ID NO:7-12, and fragments thereof.
10. An isolated and purified polynucleotide variant having at least 70% polynucleotide sequence identity to the polynucleotide of claim 9.
- 35 11. An isolated and purified polynucleotide having a sequence which is complementary to the

polynucleotide of claim 9.

12. An expression vector comprising at least a fragment of the polynucleotide of claim 3.
- 5 13. A host cell comprising the expression vector of claim 12.
14. A method for producing a polypeptide, the method comprising the steps of:
 - a) culturing the host cell of claim 13 under conditions suitable for the expression of the polypeptide; and
 - 10 b) recovering the polypeptide from the host cell culture.
15. A pharmaceutical composition comprising the polypeptide of claim 1 in conjunction with a suitable pharmaceutical carrier.
- 15 16. A purified antibody which specifically binds to the polypeptide of claim 1.
17. A purified agonist of the polypeptide of claim 1.
18. A purified antagonist of the polypeptide of claim 1.
- 20 19. A method for treating or preventing a disorder associated with decreased expression or activity of HCHP, the method comprising administering to a subject in need of such treatment an effective amount of the pharmaceutical composition of claim 15.
- 25 20. A method for treating or preventing a disorder associated with increased expression or activity of HCHP, the method comprising administering to a subject in need of such treatment an effective amount of the antagonist of claim 18.

| | | |
|-----|---|----------|
| 1 | M A A A L R S G W C R C P R R C L G S G I Q F L S S H N L P H G S T | 1556139 |
| 1 | M A A A R L R G W C R C P R R C L G S G I Q F L S S H N L P H G S S | g2351410 |
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| 36 | Y Q I S R P G R E L T L T K S Y S S G S R K G F L S G L L D N I K Q E | g2351410 |
| 71 | L A K N K E M K E S I K K F R D E A R R L E E S D V L Q E A R R K Y K | 1556139 |
| 71 | L A K N K E M K E S I K K F R D E A K K L E E S D A L Q E A R R K Y K | g2351410 |
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| 106 | S I E S E T V R T S E A I K K K L G E L T G T V K E S L D E V S K S D | g2351410 |
| 141 | L G R K I K E G V E E A A K T A K Q S A E S V S K G G E K L G R T A A | 1556139 |
| 141 | L G R K I K E G V E E A A R T A K Q S A E S V S K S G E K L G K T A A | g2351410 |
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| 176 | F K A I S Q G V E S V K K E L D E S V L G Q T G P Y R R P E R L R K R | g2351410 |
| 211 | T E F A G D K F K E E K V F E P N E E A L G V V L H K D S K W Y Q Q W | 1556139 |
| 211 | T E F A G A K F K E S K V F E A N E E A L G V V L H K D S K W Y Q Q W | g2351410 |
| 246 | K D F K E N N V V F N R F F E M K K Y D E S D N A F I R A S R A L T | 1556139 |
| 246 | K D F K D N N V V F N R F F E M K K Y D E S D N V L I R A S R A L T | g2351410 |

FIGURE 1A

2/5

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----------|----|---------|----|---|---|---|---|----|---|---|---|---|---|
| 281 | DKVTDLLGG | LF | SK | TE | MS | EV | LT | ET | IL | RV | DP | AF | DK | DR | F | 1556139 | | | | | | | | | | | | | |
| 281 | DKVTDLLGG | LF | SK | TE | MS | EV | LT | ET | IL | RV | DP | TF | DK | DH | F | g2351410 | | | | | | | | | | | | | |
| 316 | LKQCE | ND | II | PN | V | LE | AM | IS | GE | LD | IL | KD | WC | YE | AT | YS | Q | | | | | | | | | | | | |
| 316 | LH | QCE | T | DI | IP | N | I | LE | AM | IS | GE | LD | IL | KD | WC | YE | AT | YS | Q | | | | | | | | | | |
| 351 | LAHP | IQ | QAK | AL | GL | Q | F | HS | RI | LD | ID | NV | DL | AM | GK | ME | EQ | 1556139 | | | | | | | | | | | |
| 351 | LAHP | IQ | QAK | AL | GL | F | Q | F | HS | RI | LD | I | SN | V | DL | AM | GK | ME | EQ | | | | | | | | | | |
| 386 | GPV | LI | I | TF | QA | QL | V | M | V | R | N | P | K | GE | V | VE | GD | PP | DK | V | L | R | M | L | | | | | |
| 386 | GPV | LI | V | TF | QA | Q | V | V | M | V | I | K | N | S | K | GE | V | Y | D | G | D | P | P | DK | V | Q | R | M | L |
| 421 | YVW | AL | C | R | D | Q | D | E | L | N | P | Y | A | A | W | R | L | L | D | I | S | A | S | S | T | E | Q | I | L |
| 421 | YVW | AL | C | R | D | Q | E | E | L | N | P | Y | A | A | W | R | L | L | D | I | S | A | S | S | T | E | Q | I | L |

FIGURE 1B

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----------|---|---|---|---|---|---|---|---|---|---|---|---|---|----------|----------|
| 1 | M | A | V | R | S | L | W | A | G | R | L | R | V | Q | R | L | L | A | W | S | A | A | E | S | K | G | W | P | L | 3658451 | |
| 1 | - | A | A | R | S | L | W | A | V | Q | - | R | L | Q | R | L | L | A | S | G | A | M | S | E | S | R | G | W | L | H | g3411072 |
| 31 | P | F | S | T | A | T | Q | R | T | A | G | E | D | C | R | S | E | D | P | P | D | E | L | G | P | P | L | A | E | R | 3658451 |
| 29 | P | F | S | T | A | T | Q | R | T | A | G | E | D | C | S | S | E | D | P | P | D | G | L | G | P | S | L | A | E | Q | g3411072 |
| 61 | A | L | R | V | K | A | V | K | L | E | K | E | V | Q | D | L | T | V | R | Y | Q | R | A | I | A | D | C | E | N | I | 3658451 |
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| 89 | R | R | R | T | Q | R | C | V | E | D | A | K | I | F | G | I | Q | S | F | C | K | D | L | V | E | V | A | D | I | L | g3411072 |
| 121 | E | K | T | T | E | C | I | S | E | E | S | E | P | E | D | Q | K | L | T | L | E | K | V | F | R | G | L | L | L | 3658451 | |
| 119 | E | K | T | A | K | C | S | E | G | A | E | P | E | D | H | R | R | T | L | E | K | V | F | Q | G | L | S | L | L | g3411072 | |
| 151 | E | A | K | L | K | S | V | F | A | K | H | G | L | E | K | L | T | P | I | G | D | K | Y | D | P | H | E | H | E | L | 3658451 |
| 149 | E | A | R | L | K | S | V | F | T | K | H | G | L | E | K | M | T | P | I | G | D | K | Y | D | P | H | E | H | E | L | g3411072 |
| 181 | I | C | H | V | P | A | G | V | G | V | Q | P | G | T | V | A | L | V | R | Q | D | G | Y | K | L | H | G | R | T | I | 3658451 |
| 179 | I | C | H | M | P | A | G | V | G | V | Q | P | G | T | V | A | L | V | R | Q | D | G | Y | K | L | H | G | R | T | I | g3411072 |
| 211 | R | L | A | R | V | E | V | A | V | E | S | Q | R | R | L | 3658451 | | | | | | | | | | | | | | | |
| 209 | R | L | A | Q | V | E | V | A | V | E | S | Q | R | R | L | g3411072 | | | | | | | | | | | | | | | |

FIGURE 2

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----------|----------|---------|
| 1 | M | G | K | D | Y | Y | C | I | L | G | I | E | K | G | A | S | D | E | D | I | K | K | A | Y | R | K | Q | A | L | K | 4217610 | |
| 1 | M | G | K | D | Y | Y | Q | T | L | G | L | A | R | G | A | S | D | E | E | I | K | R | A | Y | R | Q | A | L | R | g1816452 | | |
| 31 | F | H | P | D | K | N | K | S | P | Q | A | E | E | K | F | K | E | V | A | E | A | Y | E | V | L | S | D | P | K | K | 4217610 | |
| 31 | Y | H | P | D | K | N | K | E | P | G | A | E | E | K | F | K | E | I | A | E | A | Y | D | V | L | S | D | P | R | K | g1816452 | |
| 61 | R | E | I | Y | D | Q | F | G | E | E | G | L | K | G | - | - | - | - | G | A | G | G | T | D | G | Q | G | G | T | F | 4217610 | |
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| 87 | R | Y | T | F | H | G | D | P | H | A | T | F | A | A | F | F | G | G | S | N | P | F | E | I | F | F | G | R | R | M | 4217610 | |
| 91 | S | Y | T | F | H | G | D | P | H | A | M | F | A | E | F | F | G | G | R | N | P | F | D | T | F | F | G | Q | R | N | g1816452 | |
| 117 | G | G | G | R | D | S | E | E | M | E | I | D | G | D | P | F | S | A | F | G | F | S | M | N | G | Y | P | - | - | - | 4217610 | |
| 121 | G | E | - | - | - | E | G | M | D | I | D | - | D | P | F | S | G | F | P | M | G | M | G | G | F | T | N | V | N | g1816452 | | |
| 144 | - | - | - | R | D | R | N | S | V | G | P | S | R | L | K | Q | D | P | P | V | I | H | E | L | R | V | S | L | E | E | I | 4217610 |
| 146 | F | G | R | S | R | S | A | Q | E | P | A | R | K | K | Q | D | P | P | V | T | H | D | L | R | V | S | L | E | E | I | g1816452 | |
| 172 | Y | S | G | C | T | K | R | M | K | I | S | R | K | R | L | N | A | D | G | R | S | Y | R | S | E | D | K | I | L | T | 4217610 | |
| 176 | Y | S | G | C | T | K | K | M | K | I | S | H | K | R | L | N | P | D | G | K | S | I | R | N | E | D | K | I | L | T | g1816452 | |
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FIGURE 3A

232 V F I I K D K D H P K F K R D G S N I I Y T A K I S L R E A 4217610
236 V F V L K D K P H N I F K R D G S D V I Y P A R I S L R E A g1816452

262 L C G C S I N V P T L D G R N I P M S V N D I V K P G M R R 4217610
266 L C G C T V N V P T L D G R T I P V V F K D V I R P G M R R g1816452

292 R I I G Y G L P F P K K S 4217610
296 K V P G E G L P L P K T P E K R G D L I I E F E V I F P E R g1816452

304 4217610
326 I P Q T S R T V L E Q V L P I g1816452

FIGURE 3B

SEQUENCE LISTING

<110> INCYTE PHARMACEUTICALS, INC.

TANG, Y. Tom

HILLMAN, Jennifer L.

YUE, Henry

PATTERSON, Chandra

BAUGHN, Mariah R.

BATRA, Sajeev

<120> HUMAN CHAPERONE PROTEINS

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<150> 09/158,642; unassigned; 09/233,291; unassigned; 09/294,698;
unassigned<151> 1998-09-22; 1998-09-22; 1999-01-19; 1999-01-19; 1999-04-19;
1999-04-19

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| 1 | | | | 5 | | | | | 10 | | | | | 15 |
| Arg | Cys | Leu | Gly | Ser | Gly | Ile | Gln | Phe | Leu | Ser | Ser | His | Asn | Leu |
| | | | | 20 | | | | | 25 | | | | | 30 |
| Pro | His | Gly | Ser | Thr | Tyr | Gln | Met | Arg | Arg | Pro | Gly | Gly | Glu | Leu |
| | | | | 35 | | | | | 40 | | | | | 45 |
| Pro | Leu | Ser | Lys | Ser | Tyr | Ser | Ser | Gly | Asn | Arg | Lys | Gly | Phe | Leu |
| | | | | 50 | | | | | 55 | | | | | 60 |
| Ser | Gly | Leu | Leu | Asp | Asn | Val | Lys | Gln | Glu | Leu | Ala | Lys | Asn | Lys |
| | | | | 65 | | | | | 70 | | | | | 75 |
| Glu | Met | Lys | Glu | Ser | Ile | Lys | Lys | Phe | Arg | Asp | Glu | Ala | Arg | Arg |
| | | | | 80 | | | | | 85 | | | | | 90 |
| Leu | Glu | Glu | Ser | Asp | Val | Leu | Gln | Glu | Ala | Arg | Arg | Lys | Tyr | Lys |
| | | | | 95 | | | | | 100 | | | | | 105 |
| Thr | Ile | Glu | Ser | Glu | Thr | Val | Arg | Thr | Ser | Glu | Val | Leu | Arg | Lys |
| | | | | 110 | | | | | 115 | | | | | 120 |
| Lys | Leu | Gly | Glu | Leu | Thr | Gly | Thr | Val | Lys | Glu | Ser | Leu | His | Glu |
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| | | | |
|---|-----|-----|-----|
| Val Ser Lys Ser Asp Leu Gly Arg Lys Ile Lys Glu Gly Val Glu | 140 | 145 | 150 |
| Glu Ala Ala Lys Thr Ala Lys Gln Ser Ala Glu Ser Val Ser Lys | 155 | 160 | 165 |
| Gly Gly Glu Lys Leu Gly Arg Thr Ala Ala Phe Arg Ala Leu Ser | 170 | 175 | 180 |
| Gln Gly Val Glu Ser Val Lys Lys Glu Ile Asp Asp Ser Val Leu | 185 | 190 | 195 |
| Gly Gln Thr Gly Pro Tyr Arg Arg Pro Gln Arg Leu Arg Lys Arg | 200 | 205 | 210 |
| Thr Glu Phe Ala Gly Asp Lys Phe Lys Glu Glu Lys Val Phe Glu | 215 | 220 | 225 |
| Pro Asn Glu Glu Ala Leu Gly Val Val Leu His Lys Asp Ser Lys | 230 | 235 | 240 |
| Trp Tyr Gln Gln Trp Lys Asp Phe Lys Glu Asn Asn Val Val Phe | 245 | 250 | 255 |
| Asn Arg Phe Phe Glu Met Lys Met Lys Tyr Asp Glu Ser Asp Asn | 260 | 265 | 270 |
| Ala Phe Ile Arg Ala Ser Arg Ala Leu Thr Asp Lys Val Thr Asp | 275 | 280 | 285 |
| Leu Leu Gly Gly Leu Phe Ser Lys Thr Glu Met Ser Glu Val Leu | 290 | 295 | 300 |
| Thr Glu Ile Leu Arg Val Asp Pro Ala Phe Asp Lys Asp Arg Phe | 305 | 310 | 315 |
| Leu Lys Gln Cys Glu Asn Asp Ile Ile Pro Asn Val Leu Glu Ala | 320 | 325 | 330 |
| Met Ile Ser Gly Glu Leu Asp Ile Leu Lys Asp Trp Cys Tyr Glu | 335 | 340 | 345 |
| Ala Thr Tyr Ser Gln Leu Ala His Pro Ile Gln Gln Ala Lys Ala | 350 | 355 | 360 |
| Leu Gly Leu Gln Phe His Ser Arg Ile Leu Asp Ile Asp Asn Val | 365 | 370 | 375 |
| Asp Leu Ala Met Gly Lys Met Met Glu Gln Gly Pro Val Leu Ile | 380 | 385 | 390 |
| Ile Thr Phe Gln Ala Gln Leu Val Met Val Val Arg Asn Pro Lys | 395 | 400 | 405 |
| Gly Glu Val Val Glu Gly Asp Pro Asp Lys Val Leu Arg Met Leu | 410 | 415 | 420 |
| Tyr Val Trp Ala Leu Cys Arg Asp Gln Asp Glu Leu Asn Pro Tyr | 425 | 430 | 435 |
| Ala Ala Trp Arg Leu Leu Asp Ile Ser Ala Ser Ser Thr Glu Gln | 440 | 445 | 450 |
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| Met | Glu | Ser | Asn | Lys | Asp | Glu | Ala | Glu | Arg | Cys | Ile | Ser | Ile | Ala | 1 | 5 | 10 | 15 |
| Leu | Lys | Ala | Ile | Gln | Ser | Asn | Gln | Pro | Asp | Arg | Ala | Leu | Arg | Phe | 20 | 25 | 30 | |
| Leu | Glu | Lys | Ala | Gln | Arg | Leu | Tyr | Pro | Thr | Pro | Arg | Val | Arg | Ala | 35 | 40 | 45 | |
| Leu | Ile | Glu | Ser | Leu | Asn | Gln | Lys | Pro | Gln | Thr | Ala | Gly | Asp | Gln | 50 | 55 | 60 | |
| Pro | Pro | Pro | Thr | Asp | Thr | Thr | His | Ala | Thr | His | Arg | Lys | Ala | Gly | 65 | 70 | 75 | |
| Gly | Thr | Asp | Ala | Pro | Ser | Ala | Asn | Gly | Glu | Ala | Gly | Gly | Glu | Ser | 80 | 85 | 90 | |
| Thr | Lys | Gly | Tyr | Thr | Ala | Glu | Gln | Val | Ala | Ala | Val | Lys | Arg | Val | 95 | 100 | 105 | |
| Lys | Gln | Cys | Lys | Asp | Tyr | Tyr | Glu | Ile | Leu | Gly | Val | Ser | Arg | Gly | 110 | 115 | 120 | |
| Ala | Ser | Asp | Glu | Asp | Leu | Lys | Lys | Ala | Tyr | Arg | Arg | Leu | Ala | Leu | 125 | 130 | 135 | |
| Lys | Phe | His | Pro | Asp | Lys | Asn | His | Ala | Pro | Gly | Ala | Thr | Glu | Ala | 140 | 145 | 150 | |
| Phe | Lys | Ala | Ile | Gly | Thr | Ala | Tyr | Ala | Val | Leu | Ser | Asn | Pro | Glu | 155 | 160 | 165 | |
| Lys | Arg | Lys | Gln | Tyr | Asp | Gln | Phe | Gly | Asp | Asp | Lys | Ser | Gln | Ala | 170 | 175 | 180 | |
| Ala | Arg | His | Gly | His | Gly | His | Gly | Asp | Phe | His | Arg | Gly | Phe | Glu | 185 | 190 | 195 | |
| Ala | Asp | Ile | Ser | Pro | Glu | Asp | Leu | Phe | Asn | Met | Phe | Phe | Gly | Gly | 200 | 205 | 210 | |
| Gly | Phe | Pro | Ser | Ser | Asn | Val | His | Val | Tyr | Ser | Asn | Gly | Arg | Met | 215 | 220 | 225 | |
| Arg | Tyr | Thr | Tyr | Gln | Gln | Arg | Gln | Asp | Arg | Arg | Asp | Asn | Gln | Gly | 230 | 235 | 240 | |
| Asp | Gly | Gly | Leu | Gly | Val | Phe | Val | Gln | Leu | Met | Pro | Ile | Leu | Ile | 245 | 250 | 255 | |
| Leu | Ile | Leu | Val | Ser | Ala | Leu | Ser | Gln | Leu | Met | Val | Ser | Ser | Pro | 260 | 265 | 270 | |
| Pro | Tyr | Ser | Leu | Ser | Pro | Arg | Pro | Ser | Val | Gly | His | Ile | His | Arg | 275 | 280 | 285 | |
| Arg | Val | Thr | Asp | His | Leu | Gly | Val | Val | Tyr | Tyr | Val | Gly | Asp | Thr | 290 | 295 | 300 | |
| Phe | Ser | Glu | Glu | Tyr | Thr | Gly | Ser | Ser | Leu | Lys | Thr | Val | Glu | Arg | 305 | 310 | 315 | |
| Asn | Val | Glu | Asp | Asp | Tyr | Ile | Ala | Asn | Leu | Arg | Asn | Asn | Cys | Trp | 320 | 325 | 330 | |
| Lys | Glu | Lys | Gln | Gln | Lys | Glu | Gly | Leu | Leu | Tyr | Arg | Ala | Arg | Tyr | 335 | 340 | 345 | |
| Phe | Gly | Asp | Thr | Asp | Met | Tyr | His | Arg | Ala | Gln | Lys | Met | Gly | Thr | 350 | 355 | 360 | |
| Pro | Ser | Cys | Ser | Arg | Leu | Ser | Glu | Val | Gln | Ala | Ser | Leu | His | Gly | 365 | 370 | 375 | |

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 35 40 45
 Ser Glu Asp Pro Pro Asp Glu Leu Gly Pro Pro Leu Ala Glu Arg
 50 55 60
 Ala Leu Arg Val Lys Ala Val Lys Leu Glu Lys Glu Val Gln Asp
 65 70 75
 Leu Thr Val Arg Tyr Gln Arg Ala Ile Ala Asp Cys Glu Asn Ile
 80 85 90
 Arg Arg Arg Thr Gln Arg Cys Val Glu Asp Ala Lys Ile Phe Gly
 95 100 105
 Ile Gln Ser Phe Cys Lys Asp Leu Val Glu Val Ala Asp Ile Leu
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 Glu Lys Thr Thr Glu Cys Ile Ser Glu Glu Ser Glu Pro Glu Asp
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 Gln Lys Leu Thr Leu Glu Lys Val Phe Arg Gly Leu Leu Leu Leu
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 Glu Ala Lys Leu Lys Ser Val Phe Ala Lys His Gly Leu Glu Lys
 155 160 165
 Leu Thr Pro Ile Gly Asp Lys Tyr Asp Pro His Glu His Glu Leu
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 Ile Cys His Val Pro Ala Gly Val Gly Val Gln Pro Gly Thr Val
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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
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| Phe | His | Pro | Asp | Lys | Asn | Lys | Ser | Pro | Gln | Ala | Glu | Glu | Lys | Phe | |
| | | | | 35 | | | | | | 40 | | | | | 45 |
| Lys | Glu | Val | Ala | Glu | Ala | Tyr | Glu | Val | Leu | Ser | Asp | Pro | Lys | Lys | |
| | | | | 50 | | | | | | 55 | | | | | 60 |
| Arg | Glu | Ile | Tyr | Asp | Gln | Phe | Gly | Glu | Glu | Gly | Leu | Lys | Gly | Gly | |
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| Val | Ser | Leu | Glu | Glu | Ile | Tyr | Ser | Gly | Cys | Thr | Lys | Arg | Met | Lys | |
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| Cys | Gly | Leu | Phe | Thr | Ala | Ile | Leu | Cys | Cys | Asn | Leu | Ile | Glu | Asn |
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| Val | Gln | Arg | Leu | Gly | Leu | Thr | Pro | Thr | Thr | Val | Ile | Arg | Leu | Asn |
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| Lys | His | Leu | Leu | Ser | Leu | Cys | Ile | Ser | Tyr | Leu | Lys | Ser | Glu | Thr |
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| Ser | Val | Lys | Asp | Val | Cys | Thr | Ala | Lys | Phe | Gly | Ser | Lys | His | Phe |
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| Cys | Asn | Arg | Asn | Asp | Thr | Ala | Trp | Asp | Glu | Leu | Lys | Leu | Thr | Cys |
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| Ile | Arg | His | Lys | Thr | His | Asn | Asp | Pro | Glu | Ser | Ile | Leu | Lys | Asp |
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| Lys | Ala | Ala | Tyr | Arg | Arg | Leu | Cys | Met | Leu | Tyr | His | Pro | Asp | Lys |
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| Lys Leu Phe Arg | Asn Leu Thr Pro Arg | Cys Phe Val Thr Thr | Asn | | |
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| Cys Ala Leu Gln | Phe Ser Ser Arg Gly | Ile Arg Pro Gly Leu | Thr | | |
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| Thr Val Leu Ala | Arg Asn Leu Asp Lys | Asn Thr Val Gly Tyr | Leu | | |
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| Gln Trp Arg Trp | Gly Ile Gln Ser Ala | Met Asn Thr Ser Ile | Val | | |
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| Arg Asp Thr Lys | Thr Ser His Phe Thr | Val Ala Leu Gln Leu | Gly | | |
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| Phe Gly Thr Val | Val Glu Tyr Gly Ala | Glu Arg Lys Ile Ser | Arg | | |
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| Val Ser Leu Lys | Val Lys Leu Asn Arg | Ala Ser Gln Thr Tyr | Phe | | |
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| Phe Pro Ile His | Leu Thr Asp Gln Leu | Leu Pro Ser Ala Met | Phe | | |
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| Tyr Ala Thr Val | Gly Pro Leu Val Val | Tyr Phe Ala Met His | Arg | | |
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| Leu Ile Ile Lys | Pro Tyr Leu Arg Ala | Gln Lys Glu Lys Glu | Leu | | |
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| Glu Lys Gln Arg | Glu Ser Ala Ala Thr | Asp Val Leu Gln Lys | Lys | | |
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| Gln Glu Ala Glu | Ser Ala Val Arg Leu | Met Gln Glu Ser Val | Arg | | |
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| Arg Ile Ile Glu | Ala Glu Glu Ser Arg | Met Gly Leu Ile Ile | Val | | |
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| Asn Ala Trp Tyr | Gly Lys Phe Val Asn | Asp Lys Ser Arg Lys | Ser | | |
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| Glu Lys Val Lys | Val Ile Asp Val Thr | Val Pro Leu Gln Cys | Leu | | |
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| Val Lys Asp Ser | Lys Leu Ile Leu Thr | Glu Ala Ser Lys Ala | Gly | | |
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| Leu Pro Gly Phe | Tyr Asp Pro Cys Val | Gly Glu Glu Lys Asn | Leu | | |
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| Lys Val Leu Tyr | Gln Phe Arg Gly Val | Leu His Gln Val Met | Val | | |
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<221> misc_feature

<223> Incyte ID No: 1469448F1

<400> 23

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cggagatcct ccgggtggac ccggcctttg acaaggaccg gtttctgaaa cagtgcgaga 120
acgacatcat cccaatgtc ctggaggcca tgatttctgg agagcttgac attctcaaag 180
actggtgcta tgaagctact tacagccagc tggcccaccc catccagcag gccaaggcac 240
tgggtctcca gttccattct cgcctcctag acattgacaa cgtcgacctg gccatgggca 300
agatgatgga gcaggggccc gtgctgatca tcaccttcca ggcacagctg gtgatgggtg 360
tcaggaaccc caaaggcgag gtggtggagg gtgacccgga caagggtgtg ngatgctgta 420
cgtgtggggc ctctgcnag acaggacgag tcaaccccta cgcggcctgg cggctcctgg 480
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<210> 24

<211> 329

<212> DNA

<213> Homo sapiens

<221> misc_feature

<223> Incyte ID No: 1576728T1

<400> 24

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cgggtgcctct gtgcctgatg acccaggccg gggctacctg gctccggcac cacactcaga 180
gaatctgctc ggtgctggag gccgagatgt ccaggagccg ccaggccgcg taggggttga 240
gctcgctcctg gtctcggcag agcgcccaca cgtacagcat ccgcagcacc ttgtccgggt 300
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<210> 25

<211> 452

<212> PRT

<213> Homo sapiens

<300>

<308> g2351410

<400> 25

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Arg Cys Leu Gly Ser Gly Ile Gln Phe Leu Ser Ser His Asn Leu
          20          25          30
Pro His Gly Ser Ser Tyr Gln Ile Ser Arg Pro Gly Arg Glu Leu
          35          40          45
Thr Leu Thr Lys Ser Tyr Ser Ser Gly Ser Arg Lys Gly Phe Leu
          50          55          60
Ser Gly Leu Leu Asp Asn Ile Lys Gln Glu Leu Ala Lys Asn Lys
          65          70          75
Glu Met Lys Glu Ser Ile Lys Lys Phe Arg Asp Glu Ala Lys Lys
          80          85          90

```

| | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Glu | Glu | Ser | Asp | Ala | Leu | Gln | Glu | Ala | Arg | Arg | Lys | Tyr | Lys | 95 | 100 | 105 |
| Ser | Ile | Glu | Ser | Glu | Thr | Val | Arg | Thr | Ser | Glu | Ala | Ile | Lys | Lys | 110 | 115 | 120 |
| Lys | Leu | Gly | Glu | Leu | Thr | Gly | Thr | Val | Lys | Glu | Ser | Leu | Asp | Glu | 125 | 130 | 135 |
| Val | Ser | Lys | Ser | Asp | Leu | Gly | Arg | Lys | Ile | Lys | Glu | Gly | Val | Glu | 140 | 145 | 150 |
| Glu | Ala | Ala | Arg | Thr | Ala | Lys | Gln | Ser | Ala | Glu | Ser | Val | Ser | Lys | 155 | 160 | 165 |
| Ser | Gly | Glu | Lys | Leu | Gly | Lys | Thr | Ala | Ala | Phe | Lys | Ala | Ile | Ser | 170 | 175 | 180 |
| Gln | Gly | Val | Glu | Ser | Val | Lys | Lys | Glu | Leu | Asp | Glu | Ser | Val | Leu | 185 | 190 | 195 |
| Gly | Gln | Thr | Gly | Pro | Tyr | Arg | Arg | Pro | Glu | Arg | Leu | Arg | Lys | Arg | 200 | 205 | 210 |
| Thr | Glu | Phe | Ala | Gly | Ala | Lys | Phe | Lys | Glu | Ser | Lys | Val | Phe | Glu | 215 | 220 | 225 |
| Ala | Asn | Glu | Glu | Ala | Leu | Gly | Val | Val | Leu | His | Lys | Asp | Ser | Lys | 230 | 235 | 240 |
| Trp | Tyr | Gln | Gln | Trp | Lys | Asp | Phe | Lys | Asp | Asn | Asn | Val | Val | Phe | 245 | 250 | 255 |
| Asn | Arg | Phe | Phe | Glu | Met | Lys | Met | Lys | Tyr | Asp | Glu | Ser | Asp | Asn | 260 | 265 | 270 |
| Val | Leu | Ile | Arg | Ala | Ser | Arg | Ala | Leu | Thr | Asp | Lys | Val | Thr | Asp | 275 | 280 | 285 |
| Leu | Leu | Gly | Gly | Leu | Phe | Ser | Lys | Thr | Glu | Met | Ser | Glu | Val | Leu | 290 | 295 | 300 |
| Thr | Glu | Ile | Leu | Arg | Val | Asp | Pro | Thr | Phe | Asp | Lys | Asp | His | Phe | 305 | 310 | 315 |
| Leu | His | Gln | Cys | Glu | Thr | Asp | Ile | Ile | Pro | Asn | Ile | Leu | Glu | Ala | 320 | 325 | 330 |
| Met | Ile | Ser | Gly | Glu | Leu | Asp | Ile | Leu | Lys | Asp | Trp | Cys | Tyr | Glu | 335 | 340 | 345 |
| Ala | Thr | Tyr | Ser | Gln | Leu | Ala | His | Pro | Ile | Gln | Gln | Ala | Lys | Ala | 350 | 355 | 360 |
| Leu | Gly | Phe | Gln | Phe | His | Ser | Arg | Ile | Leu | Asp | Ile | Ser | Asn | Val | 365 | 370 | 375 |
| Asp | Leu | Ala | Met | Gly | Lys | Met | Met | Glu | Gln | Gly | Pro | Val | Leu | Ile | 380 | 385 | 390 |
| Val | Thr | Phe | Gln | Ala | Gln | Val | Val | Met | Val | Ile | Lys | Asn | Ser | Lys | 395 | 400 | 405 |
| Gly | Glu | Val | Tyr | Asp | Gly | Asp | Pro | Asp | Lys | Val | Gln | Arg | Met | Leu | 410 | 415 | 420 |
| Tyr | Val | Trp | Ala | Leu | Cys | Arg | Asp | Gln | Glu | Glu | Leu | Asn | Pro | Tyr | 425 | 430 | 435 |
| Ala | Ala | Trp | Arg | Leu | Leu | Asp | Ile | Ser | Ala | Ser | Ser | Thr | Glu | Gln | 440 | 445 | 450 |
| Ile | Leu | | | | | | | | | | | | | | | | |

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 <211> 223
 <212> PRT
 <213> Homo sapiens

<300>
 <308> g3411072

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 Ser Thr Ala Thr Gln Arg Thr Ala Gly Glu Asp Cys Ser Ser Glu
 35 40 45
 Asp Pro Pro Asp Gly Leu Gly Pro Ser Leu Ala Glu Gln Ala Leu
 50 55 60
 Arg Leu Lys Ala Val Lys Leu Glu Lys Glu Val Gln Asp Leu Thr
 65 70 75
 Leu Arg Tyr Gln Arg Ala Val Ala Asp Cys Glu Asn Ile Arg Arg
 80 85 90
 Arg Thr Gln Arg Cys Val Glu Asp Ala Lys Ile Phe Gly Ile Gln
 95 100 105
 Ser Phe Cys Lys Asp Leu Val Glu Val Ala Asp Ile Leu Glu Lys
 110 115 120
 Thr Ala Lys Cys Cys Ser Glu Gly Ala Glu Pro Glu Asp His Arg
 125 130 135
 Arg Thr Leu Glu Lys Val Phe Gln Gly Leu Ser Leu Leu Glu Ala
 140 145 150
 Arg Leu Lys Ser Val Phe Thr Lys His Gly Leu Glu Lys Met Thr
 155 160 165
 Pro Ile Gly Asp Lys Tyr Asp Pro His Glu His Glu Leu Ile Cys
 170 175 180
 His Met Pro Ala Gly Val Gly Val Gln Pro Gly Thr Val Ala Leu
 185 190 195
 Val Arg Gln Asp Gly Tyr Lys Leu His Gly Arg Thr Ile Arg Leu
 200 205 210
 Ala Gln Val Glu Val Ala Val Glu Ser Gln Arg Arg Leu
 215 220

<210> 27
 <211> 340
 <212> PRT
 <213> Homo sapiens

<300>
 <308> g1816452

<400> 27
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 Ser Asp Glu Glu Ile Lys Arg Ala Tyr Arg Arg Gln Ala Leu Arg

| | | | | | |
|---|-----|--|-----|--|-----|
| | 20 | | 25 | | 30 |
| Tyr His Pro Asp Lys Asn Lys Glu Pro Gly Ala Glu Glu Lys Phe | | | | | |
| | 35 | | 40 | | 45 |
| Lys Glu Ile Ala Glu Ala Tyr Asp Val Leu Ser Asp Pro Arg Lys | | | | | |
| | 50 | | 55 | | 60 |
| Arg Glu Ile Phe Asp Arg Tyr Gly Glu Glu Gly Leu Lys Gly Ser | | | | | |
| | 65 | | 70 | | 75 |
| Gly Pro Ser Gly Gly Ser Gly Gly Gly Ala Asn Gly Thr Ser Phe | | | | | |
| | 80 | | 85 | | 90 |
| Ser Tyr Thr Phe His Gly Asp Pro His Ala Met Phe Ala Glu Phe | | | | | |
| | 95 | | 100 | | 105 |
| Phe Gly Gly Arg Asn Pro Phe Asp Thr Phe Phe Gly Gln Arg Asn | | | | | |
| | 110 | | 115 | | 120 |
| Gly Glu Glu Gly Met Asp Ile Asp Asp Pro Phe Ser Gly Phe Pro | | | | | |
| | 125 | | 130 | | 135 |
| Met Gly Met Gly Gly Phe Thr Asn Val Asn Phe Gly Arg Ser Arg | | | | | |
| | 140 | | 145 | | 150 |
| Ser Ala Gln Glu Pro Ala Arg Lys Lys Gln Asp Pro Pro Val Thr | | | | | |
| | 155 | | 160 | | 165 |
| His Asp Leu Arg Val Ser Leu Glu Glu Ile Tyr Ser Gly Cys Thr | | | | | |
| | 170 | | 175 | | 180 |
| Lys Lys Met Lys Ile Ser His Lys Arg Leu Asn Pro Asp Gly Lys | | | | | |
| | 185 | | 190 | | 195 |
| Ser Ile Arg Asn Glu Asp Lys Ile Leu Thr Ile Glu Val Lys Lys | | | | | |
| | 200 | | 205 | | 210 |
| Gly Trp Lys Glu Gly Thr Lys Ile Thr Phe Pro Lys Glu Gly Asp | | | | | |
| | 215 | | 220 | | 225 |
| Gln Thr Ser Asn Asn Ile Pro Ala Asp Ile Val Phe Val Leu Lys | | | | | |
| | 230 | | 235 | | 240 |
| Asp Lys Pro His Asn Ile Phe Lys Arg Asp Gly Ser Asp Val Ile | | | | | |
| | 245 | | 250 | | 255 |
| Tyr Pro Ala Arg Ile Ser Leu Arg Glu Ala Leu Cys Gly Cys Thr | | | | | |
| | 260 | | 265 | | 270 |
| Val Asn Val Pro Thr Leu Asp Gly Arg Thr Ile Pro Val Val Phe | | | | | |
| | 275 | | 280 | | 285 |
| Lys Asp Val Ile Arg Pro Gly Met Arg Arg Lys Val Pro Gly Glu | | | | | |
| | 290 | | 295 | | 300 |
| Gly Leu Pro Leu Pro Lys Thr Pro Glu Lys Arg Gly Asp Leu Ile | | | | | |
| | 305 | | 310 | | 315 |
| Ile Glu Phe Glu Val Ile Phe Pro Glu Arg Ile Pro Gln Thr Ser | | | | | |
| | 320 | | 325 | | 330 |
| Arg Thr Val Leu Glu Gln Val Leu Pro Ile | | | | | |
| | 335 | | 340 | | |